DARUL HUDA EXAMINATION BOARD
ANNUAL EXAMINATION-MARCH 2022

Time: 2hr(s) **Sub: MATHEMATICS** **Marks: 50** **STD: II**

I. Fill in the blanks **1*10=10**

1. Per cent is derived from Latin word _____
2. 75% of 12 is _____
3. The money you borrow is known as _____
4. _____ is defined as a number that can be expressed in the form p/q, where p and q are integers and $q \neq 0$.
5. Circumference of a circle = ____
6. An expression with one or more terms is called a _____
7. The number ____ is neither a positive nor a negative rational number
8. Area of a parallelogram = _____
9. Value of π =_____ or _____
10. The _____ is the numerical factor in the term.

II. Answer the following (any ten) **2.5*10=25**

11. Find the ratio of

    a) 5 rupees to 50 paise b) 30 days to 36 hours

12. Convert the given decimals and fractions to per cents:

    a) 0.02 b) 12.35 c) $\frac{4}{5}$

13. The perimeter of a rectangle is 130 cm. If the breadth of the rectangle is 30 cm, find its length. Also find the area of the rectangle.

14. Find the whole quantity if

    a) 70% of it is 14 minutes b) 8% of it is 40 litres

15. Tell what is the profit or loss in the following transactions. Also find profit per cent or loss percent in each case.

a) Gardening shears bought for Rs250 and sold for Rs 325.

b) A refrigerator bought for Rs 12,000 and sold at Rs.13,500.

16. List five rational numbers between:

    a) -1 and 0. b) -2 and -1

17. Give four rational numbers equivalent to

a) $\frac{-2}{7}$ b) $\frac{5}{-3}$

18. What should be the value of a if $2x^2 + x - a = 5$, when $x = 0$?

19. Construct an isosceles triangle in which the lengths of each of its equal sides are 6.5 cm and the angle between them is 110°.

20. Construct the right-angled triangle PQR, where m∠Q = 90° and QR = 8cm and PR=10 cm.

21. If the circumference of a circular sheet is 154 m, find its radius. Also find the area of the sheet. (Take $\pi = 22/7$)

22. Identify the terms and their factors in the following expressions show the terms and factors by tree diagrams.

a) $5xy^2 + 7x^2y$ b) $1 + x + x^2$

23. Draw a number line and represent the following rational numbers on it:

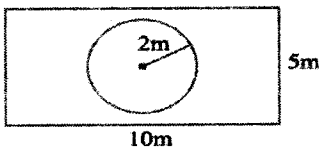
a) $\frac{-5}{8}$ b) $\frac{7}{8}$

III. Find the following (Any three) **5*3=15**

24. Add

a) $5m - 7n, 3n - 4m + 2, 2m - 3mn - 5$ b) $t - 8tz, 3tz - z, z - t$

25. The adjoining figure represents a rectangular lawn with a circular flower bed in the middle. Find:
(i) the area of the whole land



(ii) the area of the flower bed
(iii) the area of the lawn excluding the area of the flower bed
(iv) the circumference of the flower bed

26. From the sum of 3x – y + 11 and –y – 11, subtract 3x – y – 11

27. Juhi sells a washing machine for Rs 13,500. She loses 20% in the bargain. What was the price at which she bought it?

28. Solve

a) $\frac{5}{4} + \frac{-11}{4}$ b) $\frac{7}{24} - -\frac{17}{36}$ c) $\frac{-3}{8} + \frac{7}{11}$ d) $\frac{9}{2} \times \frac{-7}{4}$ e) $\frac{3}{13} \div \frac{-4}{65}$